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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David Bartlett

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EXAMINER

FLANDERS, ANDREW C

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,734

Applicant(s)

BARTLETT ET AL.

Examiner

Andrew C. Flanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61, 62, 64-113, 115, 116 and 119-146 is/are pending in the application.
- 4a) Of the above claim(s) 62, 64-100, 109-113, 116 and 119-138 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61, 101-107, 115 and 139-145 is/are rejected.
- 7) ☒ Claim(s) 108 and 146 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 61, 101, 102, 105 – 107, 115, 139, 140 and ¹⁴³⁻¹⁴⁵~~146~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuytkens (U.S. Patent 6,765,950) in view of Ikeda (U.S. Patent 6,636,551).

Regarding **Claims 61 and 115**, Nuytkens discloses:

A toy system comprising an encoder for encoding a data signal to form a spread and modulated signal (Fig. 10 element 10), an electro acoustic transducer for converting the spread and modulated signal into a corresponding acoustic signal (i.e. the speaker in Fig. 10), and a toy responsive to the acoustic signal (Fig. 10 element 18), wherein:

the encoder comprises:

- (i) a first receiver operable to receive the data signal (Fig. 10 element 26);
- (ii) a spreader operable to spread the received data signal or a modulated version of the received data signal (Fig. 10 element 30 and 34).

Nuytkens does not explicitly disclose the data signal having a data signal bandwidth centered around a first frequency or forming a spread signal having a signal bandwidth greater than the data signal bandwidth.

However, Nuytkens discloses using spread spectrum to superimpose a data signal onto an audio signal in Fig. 10. Nuytkens does not go into detail about this processes as it is relatively well known in the art.

Ikeda discloses a low bit rate narrow-bandwidth data signal in Fig. 3(a). This data signal is comparable to the data signal 26 in Nuytkens. Ikeda discloses superimposing this data signal onto a video signal, which is just as easily done onto an audio signal such as the one disclosed by Nuytkens. Ikeda further discloses using spread spectrum to spread the energy of this signal into a wide bandwidth signal in Fig. 3(b). The processes is then reversed to recover the narrow band signal. All of this is done using PN code via spread spectrum; col. 14. Nuytkens discloses using spread spectrum and code generation to modulate signals, but does not provide this level of detail.

Applying these teachings to Nuytkens discloses:

the data signal having a data signal bandwidth centered around a first frequency (i.e. the narrow band signal in Ikeda, which is now the data signal in Nuytkens, in Fig. 3(a) has a center frequency);

forming a spread signal having a signal bandwidth greater than the data signal bandwidth (i.e. spreading the data signal in Fig. 3(b) to a wide band signal in Ikeda);

(iii) a modulator operable either:

a) to modulate the data signal before being spread by said spreader onto at least one carrier signal such that (i.e. creation of the narrowband data signal of the control information and placing it at a first frequency as shown in Fig. 3(a) of Ikeda), after

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spreading by the spreader, a main band of a power spectrum of the spread and modulated signal is centered around a second frequency that is different from the first frequency (i.e. spreading the data signal over a range of frequencies in Fig. 3(b) which has a different center frequency of that in Fig. 3(a)) and that lies within an audible frequency band of 20 Hz and 20kHz (i.e. the data signal 26 of Nuytkens as spread by Ikeda is then transmitted over a loud speaker for reception by a microphone in Nuytkens Fig. 10); or

b) to modulate the spread signal onto at least one carrier signal such that a main band of a power spectrum of the spread and modulated signal is centered around a second frequency (i.e. spreading the data signal 26 of Nuytkens as taught by Ikeda and superimposing it onto the audio signal of Nuytkens) that is different from the first frequency and that lies within an audible frequency band of 20 Hz and 20 kHz (i.e. the spread signal has a different frequency center than the non spread signal in Ikeda and the data signal 26 of Nuytkens as spread by Ikeda is then transmitted over a loud speaker for reception by a microphone in Nuytkens Fig. 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to set Nuytkens spreading to operate as that taught by Ikeda. All of this is done using PN code via spread spectrum; col. 14. Nuytkens discloses using spread spectrum and code generation to modulate signals. Ikeda discloses using PN codes to spread a data signal to superimpose it over a video signal. Using the exact method of spreading disclosed by Ikeda would involve using watermarks. The data signals are generally watermarks. Watermarking audio signals in this manner is notoriously well

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known as is further evidenced by Petrovic (U.S. Patent Application 2004/0169581) in Figure 2. This is typically done to synchronize a toy with a children's television program without the data being perceptible; Petrovic para. 002 – 0018. Additionally Ikeda discloses that using electronic watermarks allows the side supplied with the information signal to surely and accurately detect each of the superimposed additional information signals; col. 3.

Regarding **Claim 101**, in addition to the elements stated above regarding claim 61, the combination further discloses:

wherein the responder is operable to generate an output that is discernible to human beings (col. 9 lines 7 – 22).

Regarding **Claims 102, 139 and 140**, in addition to the elements stated above regarding claims 101 and 115, the combination further discloses:

wherein the responder is operable to cause the toy to output an acoustic signal determined using the data signal (col. 9 lines 7 – 22).

Regarding **Claims 105 and 143**, in addition to the elements stated above regarding claims 101 and 139, the combination further discloses:

wherein the responder is arranged to cause the toy to display a visual signal determined using the data signal (col. 9 lines 7 – 22).

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Regarding **Claims 106 and 144**, in addition to the elements stated above regarding claims 101 and 139, the combination further discloses:

wherein the responder is operable to cause a movement of the toy in dependence upon a content of the data signal (col. 9 lines 7 – 22).

Regarding **Claims 107 and 145**, in addition to the elements stated above regarding claims 101 and 139, the combination further discloses:

wherein the responder is operable to cause a movement of part of the toy relative to the rest of the toy in dependence upon a content of the data signal (col. 9 lines 7 – 22).

Claims 103 and 141 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuytkens (U.S. Patent 6,765,950) in view of Ikeda (U.S. Patent 6,636,551) and in further view of Rose (U.S. Patent 4,480,602).

Regarding **Claims 103 and 141**, in addition to the elements stated above regarding claims 102 and 140, the combination further discloses:

wherein the responder comprises a processor operable to output the selected sound file via an electro-acoustic transducer (col. 9 lines 7 – 22).

The combination fails to disclose wherein the processor selects one of a plurality of sound files stored in a memory in dependence upon a content of the data signal.

Rose discloses a doll that includes a CPU and a ROM having digital data indicative of speech. Nuytkens discloses that the toy may reproduce a recorded sound or synthesized speech but does not explicitly disclose that this sound is stored within a memory within the toy; col. 14 lines 23 - 29. Applying the memory taught by Rose to the toy disclosed by the combination would read upon the limitation of wherein the processor selects one of a plurality of sound files stored in a memory in dependence upon a content of the data signal.

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of the toy in Rose including the ROM with the stored speech to the toy taught by the combination. One would have been motivated to do so to create an interactive toy that stimulates a child's development; see Rose col. 1 lines 58 - 67 and col. 2 lines 1 - 15.

Claims 104 and 142 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuytkens (U.S. Patent 6,765,950) in view of Ikeda (U.S. Patent 6,636,551) and in further view of Rose (U.S. Patent 4,480,602) and in further view of Diamond (U.S. Patent 5,314,336).

Regarding **Claims 104 and 142**, in addition to the elements stated above regarding claims 103 and 141, the combination fails to disclose wherein the memory is detachable.

Diamond discloses a child's toy that includes a detachable memory that stores a

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variety of sounds; abstract.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination's memory to be detachable as taught by Diamond. One would have been motivated to do so to allow a variety of sounds that may be changed as desired; see Diamond's abstract.

Allowable Subject Matter

Claims 108 and 146 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 108 further limits the system by adding a transmitted type device to the toy with generates a data signal, spreads it and uses an acoustic transducer to covert the signal into an acoustic signal.

The toy systems that receive spread data do not typically include transmission systems. Nuytkens and Petrovic disclose toys operable to a data signal hidden in an audio signal but do not include transmitters. Gabbai discloses a toy that includes a transmitter, but it is a wireless RF device that operates well above the acoustic range. It would have been obvious to add a module that would spread a data signal and convert it into an acoustic signal without the hindsight with the aid of applicant's specification.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7546. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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SUPERVISORY PATENT EXAMINER

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